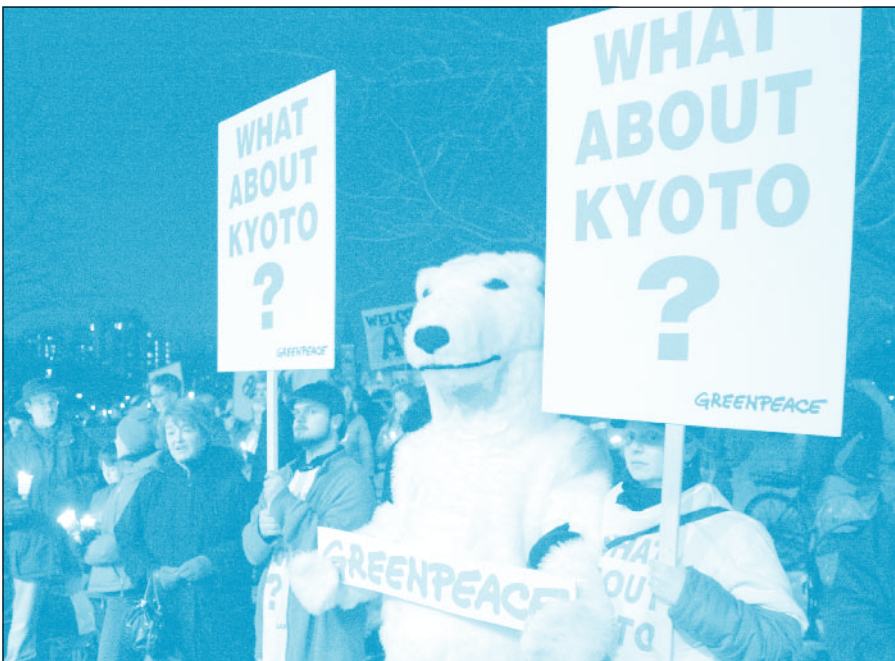


Climate Change Draws World Attention: The Nobel Peace Prize Goes to Gore and IPCC

Beverly Milner (Lee) Bisland and Iftikhar Ahmad

“The Norwegian Nobel Committee has decided that the Nobel Peace Prize for 2007 is to be shared, in two equal parts, between the Intergovernmental Panel on Climate Change (IPCC) and Albert Arnold (Al) Gore Jr. for their efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change.”¹



Climate change activists hold a candlelight vigil outside a University of Toronto hall where former Vice-President Al Gore was speaking to a sold out crowd about his film, *An Inconvenient Truth*, February 21, 2007. REUTERS/J.P. Moczulski (CANADA)

In the fall of 2007, the Nobel Committee awarded their Peace Prize to the Intergovernmental Panel on Climate Change (a scientific intergovernmental body set up by the World Meteorological Organization and by the United Nations Environment Program) and to former Vice-President Al Gore, Jr. The committee praised the United Nations panel for creating an “ever broader informed consensus about the connection between human activities and global warming.” And they praised Gore as

“probably the single individual who has done most to create greater worldwide understanding of the measures that need to be adopted.”²

The Peace Prize committee pointed out that the issue of climate change, which is not always understood, must be treated with the utmost seriousness.³ The committee commended the IPCC for making the connection between human activity and global warming through their many scientific reports over the last two decades. Thousands of scientists from more than 100 countries worked together to provide scientific evidence for these connections and their consequences.

With this award, the Nobel Peace Prize Committee continued its move of considering issues that are removed from armed conflict. Recently, the Peace Prize has been given to individuals and organizations involved in social justice, poverty remediation, and environmentalism. In explaining its choices this year, the committee delineated how the issue of climate change and global warming relates to armed conflicts. Members point out that changes in climate can alter and threaten how mankind lives. Changes will reduce the Earth’s resources and will lead to massive migrations of people and competition for these resources. At greatest risk will be the Earth’s most vulnerable countries, and the danger of violent conflicts both within and between states will increase.⁴

The Intergovernmental Panel on Climate Change

The IPCC is made up of 2,000 scientists worldwide and is considered the world's leading authority on climate change.⁵ It was established in 1988 because of the need for policymakers to have an objective source of information about the causes of climate change. In its early days the IPCC was disparaged by those who questioned the scientific basis for a human role in climate change. In response to the Peace Prize, Rajendra K. Pachauri, the Indian climatologist who heads the panel, proclaimed that science had won out over skepticism. In addition, he said, "The message that it sends is that the Nobel Prize committee realized the value of knowledge in tackling the problem of climate change," adding that the award is an acknowledgment of the panel's "impartial and objective assessment of climate change."⁶

The impartial and objective assessment of climate change is part of the IPCC's original mandate. Although its membership is made up of scientists, the panel does not conduct any research nor does it monitor climate data. Rather the panel assesses the latest worldwide literature that strengthens the understanding of the risk of human-induced climate change. The panel's reports are objective, maintain high scientific and technical standards, and reflect a range of views and expertise from a wide geographic area.⁷

The human effect on climate change is attributed to greenhouse gases, which are carbon dioxide, methane, nitrous oxide, and fluorocarbons. The greenhouse effect is based on the same principle as a greenhouse. The glass in a greenhouse lets in light but traps the sun's heat so that it cannot escape back into the atmosphere. Greenhouse gases in the Earth's atmosphere act in much the same way as the glass panes of a greenhouse. They allow the sun's light to come in but trap the heat that goes back into the atmosphere. Consequently, as greenhouse gases increase so does the Earth's temperature.⁸

Carbon dioxide is the most prominent

of these gases. It goes into the atmosphere as people exhale, burn fossil fuels, and deforest the planet. Scientists have been able to confirm an increase in carbon dioxide concentrations over the past 100 years by drilling deep into glaciers and polar ice caps, melting samples of ice, and capturing the gas. Ice core samples are essentially "drilling through time," because the deeper the ice, the older it is. We use coal, oil, and natural gas to generate electricity, heat our homes, power our factories and run our cars. These fossil fuels contain carbon, and when they are burned, they combine with oxygen, forming carbon dioxide.

Deforestation is a main producer of carbon dioxide. The causes of deforestation are logging for lumber, pulpwood, and wood for fuel. Clearing new land for farms and pastures for animals also contributes to deforestation. Forests and wooded areas are natural carbon sinks. As trees absorb carbon dioxide, and release oxygen, carbon is put into trees. Trees absorb more carbon than they emit. This process occurs naturally by photosynthesis, but occurs less and less as we cut and burn down trees. As the abundance of trees declines, less carbon dioxide can be recycled. As we burn them down, carbon is released into the air and the carbon bonds with oxygen to form carbon dioxide, adding to the greenhouse effect. About 860 acres, the size of Central Park in New York, is destroyed every 15 minutes in the tropics.

Methane, another greenhouse gas is colorless, odorless, and flammable. It is formed when plants decay and where there is very little air. Each year we add 350–500 million tons of methane to the air by raising livestock, coal mining, drilling for oil and natural gas, rice cultivation, and garbage sitting in landfills.

Nitrous oxide is also a colorless gas but with a sweet odor. Each year we add 7–13 million tons into the atmosphere by using nitrogen based fertilizers, disposing of human and animal waste in sewage treatment plants and automobile exhaust.

Several signs indicate that we have begun changing Earth's climate: increased water vapor in the atmosphere, the

melting of polar ice caps, the increased severity of floods and droughts, and the rising of sea levels, on average, between 4 and 10 inches since 1990.⁹ The first report of the IPCC in 1990 served as the basis for negotiating the United Nations Framework Convention on Climate Change (UNFCCC). The nations who signed this original convention agreed to develop national inventories of greenhouse gas emissions and to establish programs to reduce emissions and lessen climate change. By 2003, 190 nations, including the United States, joined the convention.¹⁰ This framework created a model for the interaction between science and policymakers.

During the 1990s, a concern developed that the emissions targets agreed on in the framework would not be met. Therefore a new agreement was developed that included legally binding, rather than voluntary, commitments. The IPCC Second Assessment Report of 1995 provided key input for the development of the Kyoto Protocol in 1997, which capped greenhouse emissions. In this international agreement, industrialized nations agreed to substantially reduce their emissions of greenhouse gases, primarily consisting of carbon dioxide concentrations, by 2012. More than 160 countries committed to the agreement.

There were disagreements among the parties at Kyoto. A number of the large developing nations, which included China and India, did not want to make binding commitments to reduce emissions. Other points of conflict were over greenhouse and carbon removal methods, such as planting forests as opposed to reducing factory emissions. The United States signed the Kyoto Protocol but the Senate has not ratified the treaty. Ratification would mean that the U.S. agrees to reduce greenhouse gas emissions by 7 percent below 1990 levels by 2012.¹¹ In December of 2007, 180 countries met in Indonesia to consider post Kyoto Protocol negotiations on greenhouse emissions limitations.

Later reports of the IPCC present new and stronger evidence that most of the warming over the last 50 years is due to

Past, Present, and Future of Global Cooperation on Climate Change

1972	1992	1994	1997	2007	2012
The Stockholm Conference on Human Environment, Sweden	Earth Summit, Rio de Janeiro, Brazil (UNFCCC was signed)	The UNFCCC became enforceable	The Kyoto Treaty, Japan (adds teeth to UNFCCC, but the U.S. refused to ratify)	UN Climate Change Conference, Bali, Indonesia (190 nations attend)	The Kyoto Protocol expires The Bali Pact takes effect

human activities, that regional temperature increases have already affected many physical and biological systems, that climate change has affected some human systems by recent increases in floods and droughts.¹² Examples of these findings can be demonstrated by the decrease in ice flow habitats for polar bears in the Arctic and recent water shortages in the southeastern United States, an area not previously prone to drought.

Al Gore

Since the election of 2000, Al Gore has devoted himself to the issue of global warming. His film on global warming, *An Inconvenient Truth*, won an Academy Award for best documentary of 2006. In the film, he traces his interest in global warming to his years as an undergraduate at Harvard in the 1960s through his career in Congress representing Tennessee. Gore is the politician most associated with advocacy for environmental causes and calls for action to control emissions of gases that are changing the Earth's climate.¹³

In his film, Gore explains complex information with stark and powerful images. A movie reviewer called the graphs demonstrating increased rates of carbon dioxide emissions and the rise in Earth's temperature "jolting and chilling." Equally disturbing are time-lapse photographs of receding ice fields and glaciers and computerized projections of coastlines submerged in the future (such as lower Manhattan underwater). Gore calls the need to reduce carbon dioxide emissions a moral imperative. The film, based on Gore's book, *An Inconvenient Truth: The Planetary Emergency of Global Warming and What We Can Do About It* (2006), is an excellent starting point for further investigations of global warming.¹⁴

After receiving the Peace Prize, Gore



Nobel Peace Prize laureats Al Gore (L) and Rajendra K. Pachauri greet the crowd during a torchlight ceremony in Oslo, December 10, 2007, the day they were honored with the prize. REUTERS/Ints Kalnins (NORWAY)

stated that he accepted the award "on behalf of all the people that have been working so long and so hard to try to get the message out about this planetary emergency."¹⁵ Gore announced that he would give his half of the \$1.5 million prize money to the Alliance for Climate Protection, a California-based nonprofit group, created last year and known as Planet Earth's PR Agent. Gore is on the Alliance's board of directors. The group uses advertising techniques to create public awareness, inspire community action, and implement solutions for the climate crisis.¹⁶

Climate Change and Human Security

The most critical point that the Norwegian Nobel Committee raised in its peace award statement was about the connec-

tion between global climate change and human security. Although other important organizations, such as the Security Council of the United Nations, also highlighted the connection between global climate change and world peace, the Nobel Committee honored those who sought modification in government policies and public attitudes about climate change.¹⁷ The committee noted that due to human activities the global climate is rapidly changing, which imperils the well being of people everywhere. Scientific data shows that climate change adversely affects the supply of natural resources such as water, food, and land.¹⁸ These natural resources are not only essential for human survival, they also help sustain positive intergroup relations. Conversely, depletion of natural resources can cause social instability, ethnic tensions, politi-

cal chaos, and human migration. One example was the dramatic reduction in rainfall that caused severe drought and shortage of food that eventually triggered a civil war in Darfur. Similarly, the rising sea level in Bangladesh caused massive floods forcing millions of residents to flee and take refuge in other lands.

The issue of human security had never been linked so directly with global climate change before. Fortunately, two new factors brought about a sea change in human attitudes and government policies persuading people to modify their

worldview: (a) the emergence of credible scientific data, and (b) leadership by individuals like Al Gore, and international institutions such as the United Nations. Persistent efforts by these groups and individuals shed new light on the dramatic consequences of climate change. They presented evidence to show that human activities contribute to global climate change, which imperils the security of people in different geographic locations of the world.

Indeed, in the twentieth century, security was defined in the context of

the nation-states alone. Realpolitik, a dominant worldview held by scholars, postulated that international conflicts occurred between sovereign nations over the issue of territory or other narrow national interests.¹⁹ A corollary to this worldview was the notion that each nation-state was responsible for the security of its own citizens. However, in today's interdependent world such an anachronistic worldview is no longer convincing, simply because, as the Nobel Committee indicated, the threat of climate change is global and transcends

TEACHING RESOURCES

Books on Global Warming and Climate Change

Bastedo, Jamie. *On Thin Ice*. Calgary: Red Deer Press, 2006.

Corr, Christopher. *Whole World*. Cambridge, Mass.: Barefoot Books, 2007.

Flannery, Tim. *The Weather Makers: How Man Is Changing the Climate and What It Means for Life on Earth*. HarperCollins, Canada, 2006.

Gore, Al. *An Inconvenient Truth*. Rodale, 2006.

Kolbert, Elizabeth. *Field Notes from a Catastrophe: Man, Nature and Climate Change*. Bloomsbury, UK, 2006.

Linden, Eugene. *The Winds of Change: Climate, Weather and the Destruction of Civilizations*. Simon & Schuster, 2006.

Lourie, Peter. *Arctic Thaw: The People of the Whale in a Changing Climate*. Boyds, 2007.

Pearce, Fred. *The Last Generation: How Nature will Take Her Revenge for Climate Change*. Cornwall, UK: Eden Project Books, 2006

Rockwell, Anne, illustrated by Paul Meisel. *Why Are the Icebergs Melting?: The Case for Global Warming*. New York: HarperCollins Publishers, 2006.

Stille, Darlene R. *The Greenhouse Effect: Warming the Planet*. Compass Point Books/Coughlan Publishing, 2007.

Websites for Teaching about Climate Change and Global Warming

Curriculum Guide: Exploring Climate Change Impacts www.climatehotmap.org/curriculum/index.html

Cycles of the Earth and Atmosphere Teaching Module (Grades 5-8) www.ucar.edu/learn/

EPA's Climate Change Kids Site epa.gov/climatechange/kids/index.html

Exploring the Environment (ETE) Grades 9-12 Learning Modules www.cotf.edu/ete/

Global Greenhouse Warming www.global-greenhouse-warming.com/

Global Systems Science Grades 9-12 www.lhs.berkeley.edu/GSS/

OzonAction Education Pack www.unep.fr/ozonaction/information/educationpack.htm

Simon Says "Stop Global Warming" www.hippoworks.com/animalsearth/

Primary Documents and Reports on Climate Change

Declaration of the United Nations Conference on Human Environment, Stockholm, Sweden, 1972 fletcher.tufts.edu/multi/texts/STOCKHOLM-DECL.txt

The United Nations Framework Convention on Climate Change unfccc.int/essentialbackground/convention/items/2627.php

UNFCCC: The First Ten Years unfccc.int/resource/docs/publications/first_ten_years_en.pdf

The Kyoto Protocol unfccc.int/kyoto_protocol/background/items/2879.php

Sir Nicholas Stern's Report on the Causes and Consequences of Climate Change www.hmtreasury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_report.cfm

the physical and territorial boundaries of nation-states. Nation-states, especially poor nation-states, are unable to provide security to their own citizens against climate change. Additionally, the poorest nations are most vulnerable to climate change because they have limited resources and will experience far more economic, social, and cultural devastation than the developed nations. Economists such as Nicholas Stern note that climate change is global in its causes and consequences, and therefore it calls for an international collective action.²⁰

Teaching about Climate Change in Social Studies

The 2007 Nobel Peace award brings an important issue to the attention of social studies professionals, pointing out that teaching and learning about climate change and taking appropriate action is essential to good citizenship. Since the focus of social studies is citizenship education, the phenomenon of climate change is an ideal topic for teaching children both cognitive and affective skills. That is to say, children can learn about inquiry—for example, collection of sci-

entific data and finding solutions for the impact of climate change. An examination of climate change from the social science perspective suggests that it is one of the most suitable topics for social studies. As an interdisciplinary topic, it may be explored from multiple social science perspectives, especially the NCSS thematic strands, such as **II TIME, CONTINUITY AND CHANGE (HISTORY)**; **III PEOPLE, PLACES, AND ENVIRONMENTS (GEOGRAPHY)**; **VI POWER, AUTHORITY, AND GOVERNANCE (POLITICAL SCIENCE)**; **VII PRODUCTION, DISTRIBUTION, AND CONSUMPTION (ECONOMICS)**; **VIII SCIENCE, TECHNOLOGY, AND SOCIETY**; and also **IX GLOBAL CONNECTIONS**. Above all, climate change is relevant to the tenth strand, **X CIVIC IDEALS AND PRACTICES**, because this strand calls for civic participation and collective action on a global scale (i.e., global citizenship).

All four components of citizenship education—(a) knowledge, (b) democratic values, (c) democratic disposition, and (d) civic participation skills—can be incorporated into the objectives of a K-12 lesson plan on climate change.²¹ Because climate change is a global issue, it makes sense to shift the focus of the four components from a nationalist perspective to an internationalist perspective. We do so because the scope of the traditional model of citizenship education is limited. In an increasingly interdependent world, teaching environmental citizenship is far more relevant, because the social, political, economic, cultural, and ecological consequences of climate change affect the entire planet and its inhabitants.

(a) Knowledge: Information about the causes and consequences of climate change; knowledge about the sources of greenhouse gas emissions; knowledge about resources and consumption; knowledge about the role of non-governmental organizations, such as Green Peace and the UNFCCC in fostering sustainable development; causes of human migration; implications of globalization; geographic literacy; and causes of international conflicts emanating from rapid climate change.

Discussion Activity (6-12 grades): 40 minutes

In small groups, students will read the Nobel Committee's statement on the 2007 Peace Prize and answer the following questions:

In its statement the Nobel Committee presented its rationale for giving the peace award to Al Gore and the Intergovernmental Panel on Climate Change (IPCC). What was the rationale?

What global phenomenon was identified for its decisive impact on our lives?

What processes are accelerating as a result of the global phenomenon that was mentioned?

What is the mission of IPCC?

What was the role IPCC in the 1992 Earth Summit (UN Conference on Environment and Climate) and the 1997 Kyoto Protocol?

In the context of global climate change, what is the significance of Bali?

What role has Al Gore played in making climate change a global issue?

Which two nations are mentioned as the greatest polluters?

How do environmental problems affect human security and why?

Is there an interrelation between environmental change and war and peace?

Why are the rich countries responsible for some of the problems in the poor countries?

What are some of the human activities that cause climate change?

Identify some of the advantages and disadvantages of climate change.




(b) *Values*: belief that human life is sacred and valuable; belief in environmental ethics and environmental justice; belief that the planet is a shared space for all people of the world; rule of international law; clean environment is a human right; the right to resist industrial pollution; the belief that we live in an interdependent world; the belief that the environment is a global challenge that needs a global response; and the belief that resources are limited.

(c) *Disposition*: developing social consciousness about the local and global environment; thinking critically and examining issues from diverse cultural perspectives; accepting responsibility for one's actions and willingness learn and to modify behavior in light of evi-

dence; accepting the right of all people to live in peace on the planet; rejecting ethnocentrism and national chauvinism; rejecting oppression in all forms; and willingness to actively participate with diverse cultural groups in collective problem-solving and decision-making activities.

(d) *Civic Participation Skills*: skills to educate local community on environmental issues, such as reducing greenhouse gas emissions, and to motivate and organize members of the community for action, such as letter writing, neighborhood cleaning, planting trees, and protecting rivers against industrial pollution; cross-cultural communication skills for participating in solving environmental issues; skills to develop

consensus among contending stakeholders; advocacy skills such as lobbying; and conflict resolution skills. 

Notes

1. Nobelprize.org.
2. Ibid.
3. Andrew Revkin, "2 Winners, and 2 Approaches to Spreading the Word on Climate," *The New York Times* (October 13, 2007): A 13.
4. Nobelprize.org.
5. Revkin.
6. Ibid.
7. Intergovernmental Panel on Climate Change, Mandate (1988), www.ipcc.ch/about/index.htm.
8. EPA's Climate Change Kids Site, www.epa.gov/climatechange/kids/greenhouse.html.
9. "Global Warming is Happening," Envirolink (March 8, 1998), www.envirolink.org/prgs/edf/sitemap.html.
10. Environmental Literacy Council. Kyoto Protocol. May 16, 2007. Available online at www.enviroliteracy.org/article.php/278.html.
11. Ibid.
12. Intergovernmental Panel on Climate Change, 2004.
13. "Al Gore: Quick Biography," *The New York Times* (October 11, 2007), www.nytimes.com/2007/10/11/us/topics_algore_bio.html?_r=1&oref=slogin.
14. A.O. Scott, "Warning of Calamities with a Scholarly Tone," *The New York Times* (May 24, 2006): E1.
15. Revkin.
16. The Alliance for Climate Protection. About the Alliance, www.climateprotect.org/about.
17. Edith M. Lederer, "Security Council Tackles Climate Change," *The Associated Press* (April 18, 2007) www.washingtonpost.com/wp-dyn/content/article/2007/04/18/AR2007041800219.html.
18. 27th Session of the Intergovernmental Panel on Climate Change (November 2007), www.ipcc.ch/pdf/presentations/valencia-2007-11/pachauri-17-november-2007.pdf.
19. Hans J. Morgenthau, *Politics Among Nations: The Struggle for Power and Peace* (New York: Alfred Knopf, 1960).
20. Nicholas Stern, *The Economics of Climate Change: The Stern Review* (UK: Cambridge University Press, 2007).
21. June R. Chapin, *Elementary Social Studies: A Practical Guide*, 6th edition (Boston, Mass.: Allyn and Bacon, 2006), 4.

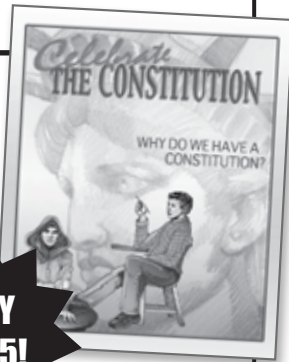
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